UNITED STATES DEPARTMENT OF AGRICULTURE — Radio Service — OFFICE OF INFORMATION

HOMEMAKERS' CHAT — Monday, April 22, 1940.

(FOR BROADCAST USE ONLY)

Subject: "LOSS OF VITAMIN B_1 IN COOKING." Information from the Bureau of Home Economics, U.S. Department of Agriculture.

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Here are a few facts from the Bureau of Home Economics about the effect of cooking on the highly important vitamin B_1 or thiamin in foods. (Thiamin is the chemical name for vitamin B_1.)

Cooking does not destroy as much of this vitamin as was formerly supposed, the Bureau says. And if housewives would cook their vegetables in as little water as possible, and use the "pot liquor" in some way, or serve it with the vegetables, the thiamin losses might be further reduced.

Thiamin or vitamin B_1, is essential for normal growth, and it is common knowledge that normal appetite is particularly important for normal tone of the digestive tract and for normal functioning of the nervous system. All of us, adult men and women, and children, need a small amount of this vitamin every day. A fairly wide variety of the foods we eat supplies vitamin B_1. Most normal adults who eat a liberal diet probably get enough of it. That is, unless they are doing extremely active work or are expectant or nursing mothers. Then, of course, they need more thiamin, just as they need more of the other food values.

But the scientists have feared that too much of the vitamin B_1 known to be in uncooked foods was lost when those foods were cooked. They also wanted to know how much of the vitamin B_1 is destroyed by adding a "pinch" of soda to the cooking water for vegetables.

So the workers in the Federal Bureau of Home Economics planned a series of feeding experiments with the foods commonly depended on for vitamin B_1,- meat, cereal products, dried beans, potatoes, carrots, snap beans, and green peas. In

their studies these foods were fed both cooked and uncooked. Here are some of their important findings on the different foods tested:

Carrots were cooked in two ways,- by boiling in a small amount of water and in a small pressure cooker without water. The carrots lost no vitamin B_1 by either method.

About a third of the vitamin B_1 content of pared potatoes apparently disappeared when the potatoes were boiled. Some of that vitamin value was completely destroyed, but some was disolved in the cooking water and could be recovered if the liquid was used in a soup or gravy or in some other way. Baking potatoes destroyed only a sixth of their thiamin content.

In most of the tests the losses were less than had been generally expected. Spinach lost nearly a third of its vitamin B_1 value, but some of this was found in the cooking liquid. If spinach is cooked in just enough water to serve with it, the vitamin in this cooking liquid is saved. Very heavy vitamin losses reported by earlier investigators may have been due to cooking in too much water or for too long a time.

Now, here's an important point: When the nutritionists simmered green peas without soda, the peas and cooking liquor contained most of the vitamin B_1. But when peas were simmered with a pinch of soda, the loss was more than doubled, and it was a clear loss, too. For either way the peas were cooked, only about a tenth of the vitamin in the peas was left in the cooking liquid.

Snap beans are not quite as rich a source of vitamin B_1 as green peas, and when they were cooked they lost proportionately more of their vitamin value. This was especially true when soda was used in cooking them. More than half of the thiamin was then destroyed.

For dried navy beans the story is somewhat different. Navy beans kept their full vitamin B_1 value whether they were cooked with or without soda. Adding a pinch of soda shortened the cooking time about a third, but the investigators warn that

the amount should be very small, actually a "pinch", and not too big a pinch, at that.

The Bureau workers cooked rolled oats by the usual household method, boiling them 2 minutes over an open flame, and then cooking them in a double boiler for 2 hours. They prepared whole wheat cereal the same way, but cooked it only half an hour in the double boiler. Neither of these breakfast cereals lost any vitamin B_1. But when they made wheat into bread, it lost about a sixth of its vitamin B_1.

Roast pork lost about 3 times as much thiamin as braised pork chops. But there's an interesting sidelight on pork. This meat is unusually rich in vitamin B_1, and the lean part of pork loin, cooked either as chop or roast, furnishes in a single serving about as much vitamin B_1 as a grown person needs in a days time. But, of course, we need other foods in a well-rounded diet, so we usually depend on vegetables and cereals as well as meat for a supply of this vitamin.

Here is how the different foods tested compare in vitamin B. The investigators say that you can get more vitamin B_1 from such average servings as two slices of whole wheat bread, or a medium sized baked potato, or 2/3 of a cup of cooked oatmeal, or half a cup of navy beans, than you can from a large cooked carrot, half a cup of cooked snap beans or of spinach. But a half cup serving of cooked fresh green peas is richer in thiamin than these other vegetables or cereals. A half cup of cooked green peas supplies about one-fourth to one-third of the quantity of vitamin B_1 usually recommended for a liberal daily allowance for one person.

Running through the main points revealed by this study, we find: That cooking destroys less of the vitamin in most foods eaten for vitamin B_1 than was formerly supposed; that vegetables preserve their vitamin B_1 value best when cooked in very little water, and that the cooking liquor should be used; that soda destroys much of the vitamin in green vegetables; that lean pork is exceptionally rich in vitamin B_1. And in general, that a diet made up of an assortment from all the different food groups, particularly the protective foods, will not only take care of our vitamin B_1 needs, but will furnish other food values as well.

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